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4/1/2011 10:56 AM

Subject: Attachments:

Response to Boyd Dansie Questions 20110331 Boyd Dansie Letter.pdf

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Attached is a courtesy copy of Kennecott's response to written questions from Mr. Boyd Dansie, Herriman, regarding Kennecott operations and mine life extension activities. It is my understanding that you also received a copy of these questions.

If you have questions or comments about Kennecott's response, please do not hesitate to contact me or Zeb Kenyon.

Regards,

Kelly Payne, PG

Manager - Environment

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Kelly L. Payne, P.G. Manager - Environment

31 March 2011

Mr. Boyd Dansie 7041 W 13090 S Herriman, UT 84096

Dear Mr. Dansie:

On behalf of Kennecott Utah Copper, I would like to thank you for your interest in the Cornerstone Project and attending several of our Open Houses. Cornerstone is our plan for extending the life of the Bingham Canyon Mine and its operations to 2028 and beyond. This plan calls for pushing back the south wall of the mine to access additional ore resources to keep the mine operating productively, safely, and efficiently.

I am writing today to respond to your questions, which are reproduced below in *italic* followed by our response.

1. How will widening and deepening the mine affect the ground water for neighbors adjacent to Kennecott in the Butterfield Canyon Herriman drainage area?

Kennecott has been monitoring groundwater systems in the region of the Bingham Canyon Mine for many years and will continue to do so for the life of the mine (including Cornerstone). Based on these data and on internal evaluations conducted by a diverse group of groundwater specialists, the Cornerstone project is not expected to impact surrounding groundwater systems. However, we are continuously working to increase our understanding in areas that may be sensitive to local communities and other stakeholders, including areas such as Butterfield Canyon and Herriman. To advance this understanding Kennecott has partnered with the Utah Division of Natural Resources (DNR) to monitor water quality, aquifer water levels, and surface water flow trends in the region of our operations. The DNR has contracted with the United States Geological Survey to participate in monitoring and publication of the data collected. Furthermore, Kennecott currently holds the water rights that will be necessary for the Cornerstone Project and does not believe that there will be a need to appropriate or acquire additional water rights. If there is a need to modify the point of diversion or nature of use of our water rights to support the Cornerstone Project we will file the appropriate change application(s), notice of which will be published for review and comment. The approval or rejection of such change application(s) is the responsibility of the State Engineer.

2. In the past, excess sulfuric acid produced at the smelter was trucked to the mine and dumped on the mine dumps above the old town of Lark. With the mine expansion, will there be an increase in sulfuric acid production, and what will become of this by-product?

Decreasing copper grade at the mine means that more material has to be mined to maintain the current production level of concentrate to feed the smelter. Thus, we will not necessarily see a corresponding increase in sulfuric acid production with the mine expansion. Sulfuric

acid is and will continue to be sold commercially and used in the copper refining process. We also use sulfuric acid occasionally to test copper recovery technologies at a lined and permitted facility in Bingham Canyon. Based on credible information that I have reviewed, Kennecott did apply sulfuric acid to the waste dumps during short and unsuccessful tests in the 1970s to improve copper leaching efficiency, but in current practices, Kennecott does not use acid to leach the waste rock piles.

3. In past years during large storms, waste dumps containing lead and arsenic have covered the Butterfield Canyon road. The materials that stayed in the canyon and on roadways were trucked back up the canyon and dumped next to the large mine dumps. With the mine expansion and more loose mine waste, what will prevent this waste from coming down the drainage areas again?

Kennecott is unconditionally committed to preventing off-site release of waste material. To prevent off-site release of stormwater and sediment from the waste rock piles we have constructed sediment ponds, diversion structures, and pipelines to capture water and sediment at the toe of the waste rock piles. In over 15 years of operation, these systems have demonstrated robustness and we continue to improve the effectiveness of these systems. We are confident that these systems are adequate to manage stormwater runoff from the current and future waste rock piles.

Unfortunately, there have been several occasions where intense rainstorms have overwhelmed the stormwater capture systems. In these instances, we have responded promptly and responsibly by notifying regulatory agencies, cleaning up sediment (except where private property owners have denied access), repairing control structures, evaluating root cause of the failure, and making improvements in response to our findings.

4. With the new mine expansion, will there be continued remediation to reclaim areas affected by historic mining efforts? Will there be any effort to reclaim land areas adjacent to the mine that have been impacted by mine waste?

Kennecott has an on-going program to reclaim land affected by mining and we report our progress annually to the Division of Oil, Gas, and Mining. In 2010, Kennecott re-graded, covered with soil, and planted 35 acres of waste rock in Bingham Canyon, bringing the total number of acres reclaimed to over 300 acres at the mine. Kennecott plans to continue reclamation of waste rock piles in Bingham Canyon and other areas. Additionally, our waste dumping practices today differ from those in the past in order to allow for reclamation of current and future waste piles. These practices include dumping in shorter lifts with setbacks between lifts to better allow us to re-grade the slopes of new waste piles, and segregation and stockpiling of waste rock that is suitable for growing vegetation for use in later reclamation. We also salvage soil from any new areas where waste rock is to be placed such as in Bingham Canyon.

5. Concerning the Cornerstone Mine expansion project, can the residents of Herriman be assured that the toxic waters that enter the Butterfield drainage area from the waste dumps, tunnels and the Lark mine (U.S. Smelting and Refining Tunnel) be kept from entering the Herriman drainage area?

There are no toxic waters that enter the Butterfield drainage area from the waste dumps, tunnels, or the Lark mine.

In the early to mid-1990s, Kennecott implemented a series of engineered controls to prevent further release of pollutants to groundwater from waste rock dumps and mine tunnels, and ceased active leaching operations in 2000. Kennecott is now required to maintain such groundwater protection systems, monitor performance, and meet protectiveness criteria as specified in permits issued by the Utah Division of Water Quality under the Groundwater Protection Program. Fifteen years of monitoring has demonstrated that these controls are effectively protecting groundwater.

Water from one mine tunnel—the Butterfield Tunnel—discharges by gravity to Butterfield Creek. This discharge is permitted through the Division of Water Quality's Utah Pollution Elimination Discharge System process, and Kennecott's permit requires that the water meet certain water quality criteria, which it does consistently.

6. With the removal of more waste rock to uncover future ore reserves, are there plans which would include a larger buffer zone that could be used to prevent significant spills of the toxic waste?

As I noted in the response to Question 3, Kennecott is unconditionally committed to preventing any spill or unpermitted release of waste material. Kennecott's obligation and preference is to control sediments on site rather than to expand buffer lands.

7. Should new water and land permits be issued before there has been complete cleanup of adjacent lands impacted by previous historical mining activity?

We have completed cleanup of cleanup of historical mining wastes for which we are a responsible party, including waste on adjacent lands. Regulatory agencies will consider our permit applications based on technical completeness and compliance of the proposed activities with established regulations. Kennecott has demonstrated that it is a responsible mine operator that is committed to environmental stewardship and social wellbeing. We have a solid history of compliance with the conditions of our environmental permits.

- 8. When issuing new mining permits, questions should be asked:
- a. What remediation will need to be made to the mining areas when the mine expansion activities are concluded?

Kennecott has a Mining and Reclamation plan on file with the Utah Division of Oil, Gas and Mining that describes the work that we will conduct during and after mining to reclaim mining areas. We will be updating this plan as part of the Cornerstone permitting process. As our plan indicates, we have committed to regrading recent and future waste rock dumping areas, placing cover material, to the extent it is available, and seeding areas where there are suitable soil conditions. Kennecott is required to leave the mine waste dumps and the pit area in a safe and stable condition at closure and continue to manage water collected at the toe of the dumps following closure.

b. What current mining practices should be changed before there is future mine expansion?

Current regulation allows Kennecott to conduct the type of surface mining practiced at Bingham Canyon and we have demonstrated that we are able to undertake these mining practices in a manner that meets all environmental requirements.

c. Should continued remediation take place to reclaim areas affected by historic mining activities?

As noted in my response to Questions 4 and 8a, Kennecott has an on-going reclamation program and has a plan to complete certain reclamation at the end of mine life.

d. With the mine expansion, will remediation and clean-up still be possible?

The mine expansion will not affect Kennecott's ability to complete groundwater cleanup and land reclamation work.

e. Should needed clean-up monies be put in escrow before mine expansion be allowed to take place?

Kennecott has posted \$15 million dollars in financial assurance with the Environmental Protection Agency to guarantee completion of groundwater clean-up. Kennecott also has financial assurance in the form of a corporate guarantee with the Division of Oil, Gas and Mining for the reclamation work required to close the Bingham Canyon Mine.

f. What are the long term health hazards to the people living in adjacent lands which have been contaminated with lead and arsenic brought about from mining wastes?

As you are aware, the Environmental Protection Agency investigated human health risks in the Herriman area in the 1990s, and addressed these risks in residential areas through removal of contaminated soil. EPA determined that lead and arsenic on agricultural lands do not pose a significant risk to human health; however, if land is converted to residential use, EPA has said that additional clean-up would be necessary. EPA's determinations are documented in a September 28, 2001 Record of Decision that can be found at EPA's web site.

9. How many tons of mine waste will need to be removed to uncover the new ore deposits?

Approximately 1.7 billion tons of waste rock will be moved as part of Cornerstone.

10. Where will the mine waste that is removed be put?

While we have not finalized waste placement plans, we anticipate that much of the rock will be placed on immediately adjacent to existing waste rock piles. What this means is that waste rock piles would get taller. We anticipate that most of the new waste rock will be placed on the north end of the mine although some waste rock will be placed on the south waste rock piles.

11. What mining practices will be changed to prevent mine waste from coming down the Butterfield Creek drainage?

See response to Question 3.

12. Are there plans to increase or enlarge the mining buffer zone around the Butterfield Canyon drainage area?

We do not believe that it is necessary to enlarge the buffer zone around the Bingham Canyon Mine for current or planned future mining.

13. With the mine expansion, will there be any clean-up or remediation of private land contaminated by historic mining activity?

Kennecott has an established record of addressing historic mining wastes that may present a threat to human health and the environment. We participated with EPA in the Herriman removal action and conducting the clean-up in Butterfield Creek Canyon. Kennecott is certain that it has fulfilled its legal and social obligations regarding the clean-up of contaminated properties in the Herriman area and is not planning additional work.

The record for the Herriman area supports Kennecott's conclusion that over 99% of the lead contamination found in the Herriman area was generated and disposed of by historic mining operations to which Kennecott has no relationship. Decades after the lead ores were milled in Butterfield Canyon and disposed in Butterfield Creek, Kennecott predecessors purchased property in Butterfield Canyon where some of the historic milling and waste rock operations occurred. Kennecott did not conduct the lead mining or milling activities in the Butterfield Canyon and its operations never produced sources of lead which, in and of themselves, would have caused a soil clean up action in the Herriman area.

The agricultural properties in the Herriman area were not cleaned up during the EPA response in the late 1990s. Instead, EPA determined that lead and arsenic contamination on the agricultural lands did not pose a significant risk to human health and the environment, but indicated that lands must be cleaned up before any residential development is permitted. Kennecott agreed with EPA to provide space in our on-site engineered repository for Herriman agricultural soil at no charge through October 2007. KUC has offered on several occasions to extend the expiration of this offer for any clean-up of the Dansie agricultural parcels.

14. Will any mining practices be changed to prevent significant spills of mine waste during storm events?

See response to Question 3.

15. What government agencies issue the water and land permits needed to move, store and crush more rock for the expansion?

As Kennecott advances Cornerstone studies, we will review and where necessary update approximately 25 of our 70 major environmental permits. This work will continue over the next 2 to 4 years. The permits relevant to your question are administered by the Utah Department of Environmental Quality Division of Water Quality (programs include the Utah Pollutants Discharge Elimination System and Utah Groundwater Protection Program) and the Utah Department of Natural Resources Division of Oil Gas and Mining (Utah Mined Land Reclamation Act),

16. In 1970, following storm events, one hundred feet of the Butterfield Canyon Road was covered ten feet deep with mine waste. What are the planned preventative measures so that this will not happen again with the new mining expansion? .

See response to Question 3. Additionally, the operational activities that led to waste rock releases in that era are no longer conducted.

Regards,

Kelly L. Payne, P.G. Manager - Environment

CC:

Rod Dansie Richard Dansie

Doug Bacon, UDEQ-DERR Rebecca Thomas, USEPA Leslie Helper, UDNR-DOGM Mike George, UDEQ-DWQ Dan Hall, UDEQ-DWQ Kim Shelley, UDEQ-DWQ